

VALVE ASSEMBLY HAVING A LINEAR MOTOR ACTUATOR

ABSTRACT OF THE DISCLOSURE

A valve actuator assembly that is implemented in a fully-electric configuration includes two rails and an armature that is moveably disposed between, and electrically coupled to, each of the rails. The armature is configured to couple to a valve element and is moveable between at least a first position and a second position, to thereby move the valve element to at least the open and closed positions, respectively. Upon application of an electrical potential of a first or second polarity across the rails, a current flows through the armature in a first or a second direction, respectively, to thereby generate a Lorentz force. The Lorentz force acts on the armature to move it to the first or second position, and thus move the valve element to the open or closed position, respectively.